

**UNIVERSITY OF MASSACHUSETTS LOWELL
CENTER FOR LOWELL HISTORY
ORAL HISTORY COLLECTION**

**SHIFTING GEARS PROJECT
NORTH ADAMS**

INFORMANT: MARK MARKARIAN

INTERVIEWER: ROBERT GABRIELSKY

DATE: APRIL 24, 1989

PLACE: WESTERN GATEWAY HERITAGE STATE PARK OFFICE

R = ROBERT

M = MARK

SG-NA-T031-T032

tape begins with interviewer:

This is Robert Gabrielsky in my office at Western Gateway Heritage State Park on April 24th, 1989, interviewing Mark Markarian for the Shifting Gears Oral History Project.

R: Okay, I'm ready to start. Now you can look through them if you want, but I would like you to ask you questions.

M: Danny Shea.

R: You recognize people here already?

M: Well this guy here used to work in the electrical testing lab, [R: Coughs] and it looked like Danny Shea.

R: That's his name?

M: Yeah.

R: Could you write it? Do you know if he's still alive or not?

M: I think so.

R: Anybody you see there, if (--) A lot of the things there is something written in the back.

M: Daniel Shea.

R: Um, would you take, would you hazard a guess what year that was taken? Some people know that stuff.

M: No. Um, it would have to be after '42.

R: Certainly, quite a bit after.

M: So that I got acquainted with him. And so I'd say probably around you know, the early fifties.

R: Probably on Marshall Street, or one of the other plants?

M: Uh, I can't recall.

R: Uhhuh. The reason I ask is that uh, well you know I ran that picture in the paper, and people told me exactly(--)

M: This one here? No.

R: No, I ran (--) It was a (--) I ran a picture in the paper [M: yeah] on a bunch of production workers. People told me the exact room and the exact year.

M: Yeah, yeah. I imagine you know, if you had worked there.

R: Right.

M: It's hard for me to tell whether that was (--)

R: This Danny Shea, what was his position?

M: This almost looked like it was uh, early, early on when they were just setting up a larger operation at Marshall Street. Let me uh, I'm wondering if it would help if I gave you my itinerary through this thing in a sense that in 1936 I worked for the Arnold Print Works.

R: Could I um, could I interrupt. [M: Sure] I would like to get background material on you and that sort of thing. And anything that you want to expand on, you can. It might take us a long time [M: yeah] to get [unclear] to Arnold Print Works, but I want that kind of background if that's, if that's all right with you.

M: Well I didn't know what kind of information you want to (--)

R: I want to go all the way back. [M: Well] All right? And in terms of your own life, [M: yeah] and your up bringing and that sort of thing. Uh, and uh, if we need to do, um, if we need to do more in terms of time then I'd like to be able to schedule more, but if, if we can't then we just do as much as we can.

M: Well do you, are you going now?

R: It's going now! [M: Yeah] Right now.

M: Well you want my history? Um (--)

R: I would, (--) Could I uh, (--) Could I ask the questions?

M: Sure.

R: And then you can go wherever you want with the questions, okay.

M: Yeah, all right.

R: But that helps me to organize. [M: Okay, I didn't know how] Make it, make the tapes more uniform [M: yeah] in terms of what everybody is doing. Uh, perfectly appropriate for you to go anyway with them, but I'll just give you sort of what basic information I want. Um, do you remember your grandparents?

M: No. They were all uh, um, in the old country during the Turkish/Armenian (--)

R: They were Turkish or Armenian?

M: They were Armenian and they got all, [R: And were they (unclear)] all uh, massacred.

R: Yeah, umhm.

M: So I never knew them.

R: Umhm. And your [M: but um] parents left as a consequence of the uh?

M: They left [R: genocide] and I guess they met over here in America and got married. So I was first generation.

R: Is there much of a uh, of a Armenian community around here?

M: Not here, in Lowell. [R: Uh huh] I'm originally from Lowell, Mass. [R: Uh huh, uh huh] Lowell, Lawrence, Cambridge, Watertown.

R: And there is uh, there is a substantial (--)

M: There's a very large Armenian community. [R: Uh huh] And like, and although the immigrant custom was to more or less congregate where their own kind were [R: Sure], so they didn't feel so estranged.

R: Did you ever read William [Serbian?]

M: Yes, a couple of his, yeah.

R: That's my contact with Armenian culture.

M: Yeah, and uh, yeah. And there was someone else who wrote "Journey to [Aerorat?]". I can't remember his name.

R: Uh, not off hand.

M: No. An Armenian author. It's been a long time.

R: The character in Joseph [unclear] this novel about World War II is Armenian. In any event uh, so you grew up in [M: in Lowell], in Lowell. [M: Yeah] And that was your ethnic, it was a strong [unclear].

M: Right. They had a, a pretty strong church following. They had their own Armenian church.

R: Uh huh. That was Eastern Orthodox, or Catholic, or [unclear]?

M: It's more like an Eastern Orthodox. [R: Uh huh, uh huh] Yeah.

R: Did you, did you know anyone that would have been of your grandparents generation when you were growing up? Older, people older than your parents [unclear].

M: Yeah, there were some, some there, but (--)

R: You weren't very close to them?

M: No.

R: Yeah, uh huh. Um, what, what did your parents do for work?

M: My mother just was a housewife. My father was a barber.

R: How did they get here? What was the circumstances? They left uh, they were from Armenia and they came here?

M: Yeah, I guess they got the chance to emigrate and then come over.

R: Um, what are your own earliest memories?

M: Going to school around the corner from the tenement we lived in.

R: Uh huh, uh huh. When was that?

M: Oh boy, that's got to be, let's see, [pause] oh say 1921.

R: Umhm, umhm. Um, how far did you go in school?

M: I graduated from Lowell Textile Institute.

R: Was that a vocational high school?

M: No, it was a technical (--)

R: Oh, it's now University of Lowell?

M: It's now University of Lowell. [R: Uh huh] And I graduated with a Degree of Bachelor of Textile Chemistry. [R: Uh huh] It's equivalent to a Bachelor of Science, but it was more pinpointed on the Textile field. [R: Yeah] In 1936.

R: Uh huh. So you basically went right through the uh, public school system in Lowell and then went to the Lowell Technical Institute?

M: Uh yeah. Lowell High School and then Lowell Textile Institute.

R: Um, did you, did you live at home at that time?

M: Yes.

R: Uh, was this Lowell Textile Institute, was it a private school or public school?

M: Public. Very, very famous.

R: Municipal? Was it run by the (--)

M: State.

R: State, uh huh.

M: It drew people from all over the world because of that specialty. They came from India, China.

R: Uh, maybe I'm asking the obvious, but what drew you to go there? I mean, was it (--)

M: Pardon?

R: What, what, what, why did you go to Lowell Textile? I mean there might have been other choices. I mean you might have chosen not to go, or (--)

M: Yeah, I guess uh, you know, the financial circumstances of my parents and the ability to pay. Although at that time tuitions were minuscule compared to what they're paying now adays. But still it meant something. And we were able to, both my brother and I, he graduated a few years before I did, he went there too. And uh, we both made careers in the chemical end of the thing. [R: Uh huh] He ended up with the um, U.S. Army testing. You know where they tested the textiles and uh, [R: Uh huh] for you know, mildew proofing and uh regular army gear. [R: Umhm] I guess they called it U.S. Army Deport then. And they did that testing. So he graduated with the same chemical background I did from the Lowell Textile. And we were able both of us to go in to the barber shop and help out.

R: Umhm. Oh, you did some barber [unclear].

M: So you know, it made it, there was no burden upon the family that way. [R: Uh huh] And it was handy. [R: Right] It was within about two, two and a half miles where we lived and we could walk it in those days.

R: Presumably there were other majors though that you might have (--)

M: They, they uh, had uh, you could major in Textile Engineering, Textile Chemistry, and then they had Textile Design, where the people would actually sit down and say this is the design and this is how you weave it. In other words they'd lay-out [R: Umhm] what this loom for example is suppose to do to make this kind of cloth with these kind of colors in it. [R: Right, right] And uh, so these were the three basic uh, career say things that they taught.

R: What made you choose what uh, the uh, chemistry?

M: I was always interested in chemistry, even as a kid. [R: Uh huh] You know, during my early reading days that's kind of (--)

R: You graduated in 1936?

M: '36, yeah.

R: Um, probably still a pretty rough time to get work huh?

M: It was. I think uh, oh I'll bet we spent, one of my buddies and I, he had a car and we, we went wandering down through New Jersey and uh, New York State.

R: Oh was, that was quite a trip.

M: You know, because there was so many dye houses and textile down through where [unclear] New Jersey, [unclear], New Jersey. And throughout Rhode Island, well we managed to make a sweep every two or three weeks, you know. We'd get out resources together and be able to pay for gas and meals, and went looking for jobs. We even went into New York City visited a place like [Seiber?] Chemical and uh, Dupont. And very nice. They take your name, we'll let you know. [R: Uh huh] And that was just about the beginning of the uh, you know, or maybe right

in the middle of the depression years. [R: Yeah, right, right] Then jobs were difficult to find. And then I guess I'd been home just twiddling my thumbs for a couple of months and I got a letter from a Dr. Louis Olney of Lowell Textile. He was the Head of the Chemistry Department. And he knew me and my record and so forth. He said he heard that there was a job opening up in North Adams, [unclear] [R: yeah] small town in Western Massachusetts. And if I was interested I should contact so and so, which I did. And I was invited to come up for an interview. And that started it all off.

R: Uh huh. So was working in Arnold Print Works really your first full time job?

M: Yeah, right.

R: Except that you did work in a Barber Shop before this.

M: Yeah, right.

R: Uh huh. And were you married at this time, or when did you get married?

M: No, single. I got married in '41 I guess. August of '41.

R: So you came out here to live and you didn't know anybody. [M: No] And what was that like when you came out? How did you get here and then where did you stay? And what was, can you remember your first day here in North Adams?

M: Yeah I, I think my brother. I didn't have a car. My brother and one of my buddies drove up with me and I got settled in to a rooming house.

R: Was Route 2 basically the same way it is now?

M: Yeah. Route 2 was pretty much the same. And so um, I got settled in and they took off and went back home. And there I was ready to go to work Monday morning. I think I came on a Sunday.

R: Like a College Dorm or something?

M: Yeah, and uh, I lived in that rooming house for a couple of years.

R: How was that?

M: It was all right. Of course you didn't have complete privacy. And inconveniences were the bathrooms and things like that. But uh, heck you're, at that stage of the game that was the least of your worries. [R: Umhm] You wanted a job, you wanted to make good. [R: Right] And make friends. [R: Uh huh] And essentially that's it about getting started. The people (--)

R: So you, you came here and what was your first day at work like? Can you remember that? Coming in to work on Marshall Street when it was Arnold Print Works?

M: It's all strange you know, I mean laboratories, chemical laboratories are the, you know, they're much the same all over. You've got bottles of chemicals, and work benches, and water, and air hoses, and things like that. And uh, basically the, getting in to the industrial aspect and learning the ropes of uh, what a big factory produces and how they produce. The first day you feel strange. And it's mainly getting acquainted with the people and finding out where the different departments are. [R: Umhm] And getting lost and finding your way back. It's such a huge complex down there [R: sure] that you(--) And it had so many turns, tunnels and overpasses that uh, I think for a week I was getting lost and asking my way back to the laboratory.

R: Uh, what was that, what was that like? Can you describe like a typical day at Arnold Print Works? Once you got settled in say, what did you do? [Comment unclear]

M: Well once I got started I think my first assignment was the, as the analytical chemist. And two of the things that I had to control on a daily basis were the incoming water supply. In other words we took the water out of the Hoosik River in the intake there and one of those buildings, you know, if I had the map I can point out which building it was, on the ground floor level and even a lower level I think. They had these huge concrete tanks or reservoirs. And the water came in. And they had equipment that would add [allum], and soda ash, and chlorine in controlled amounts to uh, (--)

R: To filter it, to cleanse it?

M: To take sedimentation and you know, solid matter out of it and it would go filtering through a sand bed, sand and charcoal, and come out um, not necessarily sterile water, but pure from the point of view of textiles in other words

R: For industrial use?

M: Yeah. [R: Right] It was good, good clean water. [R: Uh huh] I remember in those days even the cleanliness was such that the, at the intake there was oh, probably a three foot diameter intake pipe. And it was all screened off, but uh (--) I say screened, but it was to keep out big things, but fish could go through. And that was one of the things we always had a little fun with. [R: catching fish?] We had a long handle scoop and we'd pick up you know, ten and eleven inch perch or trout even out of there.

R: Well that's nice.

M: So the river was uh, (--)

R: So if you had been [unclear] (--)

M: Yeah. The river had fish in it. [R: Uh huh] It probably still does. [R: Uh huh] But I don't know how, whether they're eatable or not. [R: Uh huh] [Unclear] some day. [R: Um] So that was one of the controlled functions that I had. The other one was in the uh, what they called the

engraving room. Uh, they used to uh (--)

R: Did you know engravers? [M: Hm?] Did you know engravers, or you didn't, did you [unclear]?

M: I knew the boss of the department. It was uh, Frank Mitch was the name. And uh, (--)

R: Is he still around?

M: No. He was much, much older than uh, [unclear].

R: Cause uh, [unclear], I was told that he took a lot of pictures.

M: Yeah. He was a, his hobby was photography.

R: Is his family still around, or is [unclear] still around, or something?

M: I don't know. I haven't heard anything for years and years.

R: Because it sounds like that might be a goal mine.

M: Yeah it would if you could get a hold of his pictures probably.

R: If you could figure out where they are, right?

M: But uh, he, you know, he may have gotten in to it partly because of the photographer aspects of that operation. You know, they had to uh, it was like a photo engraving thing, [R: right] but instead of on a flat plate, they did it on a cylindrical copper roller. And uh, I think they coat the roller with a, some kind of an asphalt base, material. And when that hardened on there, then the engravers would [R: carve it?] carve the pattern out, out of that. And where they carve with the tool it would leave the copper there. [R: Uh huh] Okay, then it would go into an etching bath. [R: Uh huh] Okay, just [R: which would burn off (--)] like uh, photo engraving. [R: Yeah] Okay. From there it would then, because it had to go on to these printing machines where it would be subjected to an abrasive action. If this roller is turning and say uh, long knife like blade would be scrapping against that surface and leaving ink only in the grave in the part that was cut out, [R: umhm] okay. And if you just did that with soft copper rolls it would wear very rapidly. So they chrome plated them. Chrome being a very hard metal. [R: Umhm] They'd build up a substantial layer of chromium on, on that, and that was another one of the things that I had to control, was the strength of that chrome plating solution and make (--)

R: Would this be electroplated?

M: It would be electroplated, yeah.

R: Uh huh, uh huh. How big were these rollers?

M: I guess they could go as wide as (--) Well the rollers could be about forty-eight inches in width, and maybe six to ten inches in diameter. And those would fit right into the printing machine. And they'd have you know, many of these there printing three, four, five different colors. And they'd have one roller would say, print the blue stem of a flower, or green stem of a flower. And another roll would print the petals, and another one the leave. [R: Uh huh] Because it went one, two, three through the machine.

R: So you're doing, you're doing what in this engraving process?

M: I was controlling the electroplating baths. [R: I see.] The strength of the solution so that they got good results in proper plating.

R: I see. Okay. Okay.

M: And those were basically, that and uh, incoming materials uh, raw materials testing. And you know, if you bought acids, and you were buying say, 50% of acidic acid, you'd check to see if it was indeed 50% acidic acid, or sulfuric acid. Things like that. In other words you were checking the quality and the strength of incoming materials. And as I say, I was checking the water system and checking the plating. So I (--)

R: Were there different specified skill levels for a chemist? In other words either from the point of view from the chemists themselves, or from the point of view of management of saying well, this person knows more and [unclear] more complicated procedures, that sort of thing?

M: Yeah, well we, we had (--) The set up in the chem lab was the chief chemist. [R: Umhm] His name was Edmund [Tarnuzer?]. And uh, one of these fellows, Paul Netherwood was the oldest by virtue of the fact that he you know, had longevity in the operation. He was an MIT graduate and he was kind of a second. And the rest of us were pretty much equal level.

R: On an equal basis.

M: And it was a very small operation anyway.

R: How many people?

M: I'd say that there was uh, at that time there was four chemists, a secretary. [R: Umhm] And I think yeah, they had a laboratory helper. Uh, and that was it.

R: Um, how uh, what were your, what were your working hours when you first started to work?

M: 8-12 and 1-5 I think. Just a regular eight hour day.

R: Uh huh. So you did an eight hour day, forty hour week? Five day? [R: Yeah] Five day week? [R: Yeah] Monday through Friday.

M: But on occasion there was no bashfulness about asking us to come in Saturday morning and

finish up a job, or something like that.

R: Uh huh. And you were on salary, not on (--)

M: On salary, yeah. Eighteen dollars a week to start.

R: Whatever you got you got. You didn't get overtime, or anything like that. [M: No] Um, where exactly was your uh, was your rooming house that you moved in?

M: The first place I stayed was at uh, you know where [Holden?] Street is?

R: It's up the hill?

M: Yeah, well. No it's, Holden Street is a continuation like Marshall Street.

R: Right, yes, yes.

M: You know, you're going north.

R: Umhm. Yeah, I know where it is now.

M: Well if you took a right there and a first left, the house was on that corner. [R: Uh huh] I don't remember the name of the street now.

R: It seems like it'd be easy going to work, but a little rough coming home, [M: yeah] walking. Walking up the hill

M: No, no. This was, this was on a flat. The rooming house was on a flat. [R: Uh huh] You just say, went to the lights. You went to River Street.

R: Do you remember how long it took you to get to work? Fifteen minutes?

M: No, no, no. Three or four minutes. [R: Yeah] Very, very short.

R: Okay. So you worked forty hours. A little overtime once in awhile. Um, you were single. You were living in a rooming house. What did you do with the rest of your time?

M: Well we lived in a rooming house. We, most of us that were single like that, the friends that I made anyway, we, we'd eat at one of the diners in town.

R: There used to be several diners.

M: You buy a meal ticket, you know?

R: Uh huh. Yeah, for a week, or a month, or something like that.

M: A weekly meal ticket. [Chuckles] [R: Right] And you'd spend about, if I remember right we'd spend about six dollars on meals. Um, it use to cost about eight or ten dollars for the rooming house.

R: That doesn't leave you a lot of slack.

M: And my salary was eighteen. So I have two dollars spending money. [Laughs]

R: You never sent your clothes to the cleaner I guess.

M: Yeah, yeah. That was a problem. And we'd have to save up our money to go out. Uh, in those days they used to have a pretty nice weekly affair going on down at the North Adams Armory. And um, they had a promoter.

R: These were dances for sing (--) Like singles dances.

M: Yeah, they had dancers and they used to bring in good name bands, [R: Uh huh] like, like uh, uh, I'm trying to think. The Dorsey Brothers came one years. Gene Cooper, [R: Uh huh, uh huh] you know, things like that. And you'd go there and in those days the system was uh, they had quite a few tables set up around the periphery of the dance floor. And you could bring your own bottle of liquor. And you(--)

R: They give you setups.

M: There you could buy your set-ups and your ice.

R: Right, right. Uh huh, uh huh.

M: So.

R: How much did that cost? It sounds like you know, you go to a name band.

M: Well I'll tell you in those days none of us had much money. We used to each pitch in fifty, or seventy-five cents and get a gallon of wine, [R: Uh huh] or a pint of liquor, or something like that. It was on a strictly a share basis, you know? You had to pitch in and get something and go to the dance.

R: Uh huh. That was a major kind of sort of recreation [unclear].

M: Yeah, it was. Yeah. And then the other thing was that uh, I got in with a bunch of fellows that were outdoors men and I went fishing with them. [R: Uh huh] I got my, over a period of time got the fish pole and we'd go trout fishing down the Deerfield River, [R: uh huh] and the Cold River. [R: Uh huh] And in the wintertime uh, in those days they didn't have the fancy ski outfits that you do today. [R: And it's cold] For something like thirty-five dollars if I remember right, I got the boots, a pair of skis, and ski poles. And that all (--)

R: For cross country skiing, or downhill?

M: Uh, we went downhill skiing with them, but all they had was the toe strap and something that clipped on to your heel to keep your heel down. [R: Uh huh, uh huh] And you could go skiing up they called it the Notch Farm. I think you paid something like fifty-cents for the afternoon for the rope toe. [R: Uh huh] The hill, and slide back down the hill. [R: Every time] Go back down.

R: Uh huh, uh huh.

M: So those were the three past times.

R: How about, how about, yeah, okay. How about in the, how about in the evenings during the week? What did you do when you got out of work. Have dinner in one of these diners, then what do you do?

M: Oh boy, not a hell of a lot.

R: [Comment unclear] Go home and stare at the ceiling? I mean, [unclear]?

M: Well I think um, usually uh, for some, some of the guys if I remember had cars. And so if they were going anywhere we'd, we'd get together. Pitch in for gas.

R: Did you listen to the radio, or read, or go to movies, or things like that?

M: Oh yeah. Yeah. They had the movies. And I started off uh, I always liked classical music. [R: Uh huh] And uh, so that was part of uh, when I finally could afford it I, I bought a record player. [R: Uh huh, Yeah] You know, started a little collection.

R: Uh huh. Those are rough in those days. Kept breaking all those seventy-eights huh? [M: Yeah] Especially the twelve inch seventy-eights. Uh, when that, when that pops up we will have been at it for forty-five minutes. Okay. Um, so when and where did you meet your wife?

M: She worked in the Arnold Print Works.

R: Uh huh. So you met her at work?

M: Yeah. [R: Uh huh] She was the secretary in one of the offices, I think in the Silk Department. [R: Uh huh] And so we got acquainted.

R: Around when was this? This was in the late thirties and early forties?

M: Well yeah, it would be in the '38, '39 [R: Uh huh] period of time.

R: What was her position again?

M: She was a secretary in one of the offices.

R: Uh huh, uh huh. You sort of described working in a laboratory. One laboratory you know, is the same as the next. And I under (--) That's, that's part of the uh, that's sort of built into their character of uniformity, if you're going to do, [M: Yeah] replicate experiments and that sort of thing. Um, but I can imagine that in a variety of ways um, work, working conditions might vary from one laboratory to the other in terms of um, in terms of wages, in terms of relationships with bosses, in terms of cleanliness and health and safety standards, and the amount of work they want you to turn out. All of those kinds of things. How would you describe working conditions at the Arnold Print Works, in the laboratory of Arnold Print Works, particularly in light of you know, experience you had later, or educational experience you had before? Would you describe that?

M: I'd say they were good. [R: Uh huh] Yeah. I think you know, you can lay that at the door the fact that the man who was running it was an extremely nice person. [R: Uh huh] He was very knowledgeable, very fair, and from that point of view that's seventy-five percent of the battle. [R: Sure] You know if you look at it and say, boy what a dingy looking place that was in a picture you know? So you know, it didn't have the spit and polish that one of the high techs labs has today. You didn't need it. [R: Uh huh] You didn't need it then in that kind of an operation. You weren't dealing with microscopic material. [R: Right] So.

R: Umhm. Um, were you aware of anything about other departments, especially uh, conditions of work and that sort of thing in other departments?

M: Not too much. You know, only from the aspect that you knew that some departments to people were getting (--) I guess it was very difficult to keep from getting dirty with the materials going through man. [R: Yeah, sure] You've got dye on your hands, or they're splashed on you when you're pouring a bucket full of dye into the receptacle say that's going to go on a printing machine. Uh, you couldn't help uh, you know, getting dirty, getting dyes on your clothes or materials like that. If you worked in some of the operations like the bleach house, or where they were doing washing of the goods, some of it would be going overhead on pulleys and dripping water. And then you couldn't help getting splashed once in a while. Uh, from that aspect you know, it wasn't the spic and span operation that you can picture until later on. Once the cloth was out of all the chemicals and out of all the dyes, and it was clean, you had clean jobs where you could come in with a suit and not get dirty. But (--)

R: While, while you were working at the Arnold Prints Works were there any uh, labor difficulties? Strikes, or other visible labor difficulties that you were aware of?

M: I don't remember any of that at the time. No.

R: Uh huh, uh huh. I presume because you were in progressional position that you were not in the union. [M: No] Uh huh.

M: You're right. They had uh, they had (--) I'm trying to think, they had a very strong today I

guess you'd call it a journeymen union of some type. They were engravers, but also the printers. [R: Umhm] And uh, that was almost a closed shop in a sense that the printer, if he had a son and his son got to be of age, and there was an opening, his son went to work there. [R: Right] You didn't have a China man's [R: right, umhm] chance of getting a job as a printer unless you were related.

R: I talked to one. They're very proud, very you know, very proud of their skills. [M: Yeah] Um, okay. What was the um, when did you get married exactly?

M: August of 1941.

R: Uh huh. So you got married while you were still working at uh, [M: Arnold Print Works] Arnold Print Works. Uh, is your wife was originally from North Adams?

M: Yes.

R: Uh huh. And um, where exactly did you get married? You got married in the church I guess. [M: Yeah, at uh] Where, what church?

M: Well at Saint Francis' Rectory. [R: Uh huh] She was a nice Irish girl, catholic. [R: Uh huh, uh huh] I was (--)

R: Did you become catholic?

M: No.

R: No, you did not. So describe the transition from, for you and for the community from Arnold Print Works to Sprague. I mean what happened? What was, how did, how did Arnold Print Works phase out?

M: Well you know it seemed like this was just about the beginning of let's say 1941, it appeared as though the United States was getting a little more involved with you know, helping Great Britain and all that sort of stuff. And uh, there seemed to be a current of let's say manufacturing orders were going out in a more pronounced fashion than in the past. In other words things were picking up, business was picking up. But for some reason textiles were in a state of flux. So a lot of them had, during let's say the '29 to '36, '38, '39 time period a lot of them had moved their operations to places like Georgia, North Carolina, South Carolina and set up shop down south way. [R: Umhm] The heat was cheaper, labor was cheaper, and I think the competition from them because a little more fierce. I think in it's hayday the Arnold Print Works was fighting for first place in this country, and in fact the world, as the largest print works you know, existing.

R: Did a rail enter right into the plant there at Marshall Street?

M: Yeah, they used to bring coal in, in there. And I'm sure that they shipped, they must have shipped out stuff too.

R: But I'm wondering how, you know, before the, before tractor trailers I'm wondering how the material was shipped.

M: Yeah, yeah. They, they, (--) I think you can see in some of the pictures where the tracks go right pass some of those places. [R: Uh huh] But uh, I think the company was, majority owned by a Dr. Jones. I can't remember his first name. [R: Uh huh] He I guess had, the story goes that he had great hopes that his son would take over and run and manage the place. And I guess the son was the you know, the typical rich-man son playboy type. And uh, he didn't understand the business or want to I guess. And uh, so the old man was greatly disappointed. Again, this is here say in my part. I didn't know, know him to talk to. [R: Sure] But uh, and they said that business was dropping off and they had not been able to, because of the particular types of cloth that we worked with and so forth, that they weren't able to get any firm orders say, as part of the war effort, or coming was effort. [R: Umhm] So uh, I decided, hey I've had it. And they shut the place down. I don't think it went bankrupt. [R: Right] See. And they just folded presumably for lack of business.

R: What, what was that like for you? I asked you what your first day was like, uh (--)

M: It's kind of a jolt since I had just recently got married. [R: Yeah] And uh, so the first thing I did was uh (--)

R: Do you remember how you got the news that the place was shutting down, or did you just get a pink slip one day, or (--)

M: I guess that uh, no, I think that the head of the laboratory called us in and told us. [R: Uh huh] Said that there were going to be lay-offs and the last ones in will be the first to go. And then the other guys hung on for several months more. But I was just the very last one in, so I went. [Chuckles]

R: So you, do you (--) Uh, you were just layed-off one day, that was it, right?

M: Yeah, right. But uh, I had a few leads and sent out some resumes. Went searching, I went to Troy. I had, (--) Because um, one of the outfits out there, Bayer Manning Corporation, manufacturers of sand paper. It seems like a strange tie-in, but they had a process of uh, taking sand particles on an adhesive coated paper and then dropped the sand particles in an electric field. The sharp points would all stand up, giving you a greater efficiency in [R: in the sand paper] in the sand paper.

R: Now that's fiber.

M: They applied the same (--)

R: I wonder how that worked? I mean does sand have a potentiality? I mean how could it (--)

M: Well the thing that happened was that uh, some great minds got together and said "gee, I can do this with little bits of cotton fiber, and I can make them all stick up like that. It will be like

velvet." [R: Uh huh] And uh, they licensed us in their technology and helped us in that technology.

R: Who is this? Arnold Print Works?

M: The Arnold Print Works. [R: Uh huh] And that was one of the last jobs that I was on in the Arnold Print Works. [R: Uh huh] I had progressed from strictly analytical work to uh, development. [R: Uh huh] Development of that process and the adhesives that it was founded on. So I knew those people. I went over to see if they had any jobs in their sand paper mill. [R: Uh huh] And uh, I think the reason I didn't go was because they didn't offer me enough of an incentive to make the move, you know, over what I have been making at the Arnold Print Works. [R: Uh huh] I was (--) If they had said I'll give you ten dollars more [R: right] for making the move and uprooting yourself and family, and coming to live in Troy, I probably would have gone. But um, that was one lead I have that uh, I turned that one down because I didn't think I was getting was I was worth. I had another offer from New England Lime. It's now Pfieser [unclear].

R: Pfieser? Boy I was just down there about two ago. They dumped some lime all over the damn highway. It's just all, it's a mess.

M: So I was pretty much set to go there when I got a call. Actually I didn't even approach them, I got a call from Sprague um, employee manager, and said we got a job opening in a lab down at Brown Street. [R: Uh huh] And uh (--)

R: You didn't even call them, but they new about you. [M: Yeah] Uh huh.

M: They must have you know, talked with somebody at Arnold's [R: Right] and said he was available. And uh, so they offered me what I thought I should have gotten from the Troy people, but they offered me that much here. So I says, hey, great. That sounds good. And so I went to work for them. And this first job that I had, it was at the Brown Street plant. [R: Right, right] And at that time Brown Street was making capacitors, they were making masks, they were making casings for [unclear] bombs. [R: Umhm] And so (--) And also doing some development in a laboratory that I went to work in (--)

SIDE ONE ENDS-SIDE TWO BEGINS.

Begins with informant in mid-sentence:

M: [Comment unclear]

R: Well I appreciate it. Um, so you, so you went to Brown Street. I would like to hear what you did at Brown Street and how different from what you had been doing for Arnold Print Works.

M: In a sense it was complete upheaval. In other words, no more textiles. You strictly uh, um,

of course chemistry is chemistry no matter whether it's in textiles, or [R: sure] capacitors, anything else. But the, the technologies are completely different. The production equipment is different. Uh, so (--)

R: Was this uh, was this stressfull in terms of your skills or competence at all?

M: Not really? I uh, (--)

R: Chemistry is chemistry.

M: Yeah. As I say I got in, hey um, teach me what this is all about and uh, let me go. [R: Uh huh. Right] And uh, that's what we did. So I had to learn a lot about what is a capacitor. [R: Right] Here I'm used to taking a piece a cloth and looking at it and see how well it was printed and dyed. And all of a sudden that's passe, and you're making capacitor. And you find out hey, there's not only one kind of capacitor, there's about fifty different kinds of capacitors.

R: You never figured them out by looking at them. [Laughs]

M: So you know, it takes awhile to differentiate between different ones. Learn what the process is in making them. What the materials are. And then what you expect, the kind of performance you expect from them at the end. [R: Uh huh] But uh, I didn't jump right into that. I ended up again, doing an analytical function on incoming materials. You know, making sure things are up to standard, the raw materials. And also um, I got immediately involved in the gas masks, control of that operation with regard to uh(--)

R: What? The filters?

M: The filter part of it. In other words we had to evaluate the charcoal. [R: Uh huh] We had to evaluate the paper. At the end of the line when the canister was complete and sealed and so forth, we had to take representative samples and actually run the poison gases through them, and test them for efficiency. [R: Uh huh] You know, how long they would absorb at this concentration?

R: What did you used like, chlorine, or did you have mustard gas?

M: Chlorine, mustard gas, chloropicrin. [R: Uhhuh] So uh, that became (--)

R: Was that more dangerous than usual in terms of lab work?

M: Not really. You have, you know, these things all have their danger associated with them, but you get to recognize it and you know that they're dangerous, you're very careful.

R: Right. Uh huh.

M: So uh, I'll tell you I began to specialize primarily in that aspect of it. And then uh, I was picking up capacitor technology on, besides that. [R: Right] You know, you're working with

people and you see them work and you asked a lot of questions. And uh, after awhile some of it sinks in that you've been in books and periodicals of read. And you catch up on it. So after awhile I guess I was as in-depth as some of the others that had been there longer than I. So um, they, we worked with the uh, Army Corps of Engineers I guess, [R: right] who (--)

R: On the gas masks.

M: On the gas masks. [R: Right] And whenever they had a production problem, say an adhesive for some reason that wasn't working, they'd bring the problem to us. And we did a lot of trouble shooting. [R: Uh huh, uh huh] You know, why isn't this (--) If you had to put two pieces of rubber together and vulcanize them for example, and they'd run them through a test and they'd come apart like butter. What's wrong here, you know? And you'd have to go back and check through the materials and find out what's going on. Maybe somebody didn't have the right temperature, or didn't have the right pressure, or material was too old.

R: When did you move from Brown Street back to Marshall Street?

M: Let's see. I can't really. Let's see, 1942. I'm, I'm going to guess it's only a couple of years that I spent at Brown Street. [R: Uh huh] And then uh, then (--)

R: You went to Beaver Street, or Union Street?

M: I was trying to think. I think then Sprague, when Arnold Print Works finally closed, shut the doors, nobody worked there anymore, okay, it might have been late '42 or '43, I'm not sure, I can't really tell you.

R: Yeah. Well it was April '42 that the Arnold Print Works shut down.

M: That's when they shut down, but I think they still had people working there on different things for awhile. I don't know (--)

R: Scrapping the [unclear] to get the copper.

M: Yeah, I don't know when (--) Yeah, things like (--) And then Sprague purchased the whole complex. One, about a million square feet of manufacturing area available. And Sprague was bursting it's seem sat the Brown Street Plant in a sense that they were beginning to get a lot government orders for capacitors as I say, for the gas masks. It was kind of a preparedness [R: Right] going on there. And uh, let's see, they bought the mill and they decided to take the gas mask operation right out of Brown Street and make room for the capacitors to expand into. [R: Uh huh] Okay? And so they moved, the first group that moved was, they put me in charge of the gas mask lab. Moved it to Marshall Street and gave me an assistant. And that, that became our only job, just gas masks. I didn't fool around with anything else at the time. [R: Uh huh] And then following that they got us settled in and then they moved the whole gas mask manufacturing to Marshall Street. And that's the building that runs along the Marshall Street parking lot. [R: Right] That's a three story (--)

R: Umhm. That whole building was used for, to manufacture gas masks.

M: Right. [R: Uh huh] So then we had the control function for that. [R: Right] They were right handy to us there. I think I stayed in the gas mask operation for maybe another couple of years, and then they decided that uh, the Army Corps of Engineer was going to take up, take over the responsibility. They would have civilians working the the laboratory, but (--)

R: Directly under uniformed officers.

M: Yeah. So they set that system up and uh, uh, I didn't appreciate it too much, because I knew so much more than the people who were directing me that it used to irk me.

R: Uh huh and you were, they were used to giving orders [unclear].

M: They were used to giving orders. Hey, go and get me a piece of tubing. Go do this and that. [R: Uh huh] Well after awhile there was one guy that became obnoxious in my estimation. And we had a few words and I decided this wasn't the right spot for me anymore. And I told my immediate superior that if they didn't find anything else for me at Sprague, they better find a new gas mask uh, you know, a manager for their gas mask lab, because I was leaving. So fortunately they found me an opening in the uh, organic chemistry laboratory. [R: Uh huh] You know, jack of all trades here. From textiles, to gas masks, to capacitors, and now to an organic chemistry lab.

R: This was also on Marshall Street?

M: This is, by now I think they had just about at that time begun to move it to Marshall Street. It was, it had been as I mentioned earlier, they had a group that worked on capacitors in the Brown Street Lab. And these fellows were working on dielectric materials, insulators, and things of that type which are you know, basic to a capacitor constructions. And uh, they decided again to make more room and consolidate certain operations at Brown. And they moved that lab up to Marshall Street. [R: Uh huh] And so I went to work in there and I had to learn another new technology.

R: Uh huh. During your tenure at both Arnold Print Works and at Sprague, was there ever a particular lab, or a period of time when you felt, or you were obviously aware of the fact that work had, had significantly intensified where you were being expected to do substantially more than you had previously been asked to do for any reason, whether it was the war effort, or industrial push, or anything like that?

M: Well during the war I think that the general attitude was, no matter what it took you got the job done. [R: You did it, you did it] Yeah, that prevailed not only in the labs, you found that spirit throughout. It was a great kind of a spirit, you know, for those times. And hell I can remember uh, they had (--). As I say, these people that I first started to work with down at Brown Street had been doing organic chemical work in dielectrics. [R: Uh huh] And one of them was an extremely important dielectric material, because it was used in the proximity fuse. [R: Uh huh] You heard that word before?

R: Yes. Yeah, uh huh.

M: The proximity fuse was what they shot at airplanes, and it didn't have to have a direct hit.

R: Right. As soon as it got close it would explode.

M: If it got say, within fifty feet it exploded.

R: Like a death charge.

M: [Unclear] did the job. So one of those was a material called vinal [carbisol?]. [R: Uh huh] And that was only made in Germany. And we were now (--)

R: Uh huh, synthetic material.

M: And now we were at war with Germany.

R: Right.

M: So one of the things that Sprague entered into was to learn how to manufacture that material. [R: Uh huh] And uh, as they progressed they entered into an agreement with Dupont Chemical to uh, Dupont people were going to take our say, laboratory recipe and translate that into a [R: Uh huh] into a chemical plant to produce this vinal [carbisol?]. And that's a building down at Brown Street I think it's still in existence. But uh, they set up the uh, the whole operation from cooking the material to uh, dissolving it, distilling it, purifying, crystallizing it out as the product that went into the capacitor. And that was one of the jobs that I worked on. Although I was at Marshall Street we'd go down to the Brown Street to run this chemical plant. [R: Umhm] And we got it into a, to the stage where we were able to say, manufacture fifty pounds a day, or some such number. Okay. And then we moth balled it.

R: Uh, how come was that?

M: Because they had a certain amount of stock, stock pile of material [R: uh, already] already, and they wanted to just keep that stock pile. And then when it got to a stage where the stock pile was showing signs of nearing an end, they would start manufacturing.

R: Umhm. I was shuffling through here because I was looking for a uh, I have a picture to the, the gas mask assembly line. [M: Yeah] I can't find it. This was the 1927 flood.

M: Oh yeah, I don't remember that one.

R: Right. But uh, it was (--) Do you remember this? That was a tram that went across the yard when Arnold was there.

M: Was this the coal, coal transporting?

R: I thought it was for materials so it didn't have to go up and down. [Phone rings]

M: Oh, I don't know.

R: [Answers telephone] Hello! Yes. You need to call uh, 663-6312. Umhm. Here's a, that's a capacitor assembly.

M: Yeah, this is where the girls are rolling capacitors, yeah.

R: Right.

M: [Pause] This looks like, as I say, that looked like Danny Shea. [R: Uh huh] [Comment unclear] Well should we call it quits?

R: Uh, okay. I would (--) I really, really appreciate the time you've given me. And you can either call me up, give me a buzz some other time if you'd like to talk to me, or we can make an appointment now.

M: I'll call you when I (--)

R: Sure. Okay. Okay, that's fine with me. Um, [few word unclear]. Here, you could shuffle through that [unclear].

M: This guy's name is Ernie [last name unclear].

R: Oh, could you write that one the back? And also what his position is. What, I mean (--)

M: He was an assistant of the (--)

R: An assistant something or other.

M: Uh, what do you call them. Technician.

R: I mean anything. If you have a lab tech, engineer, anything, any ball park designation like that would be helpful. Produc (--) You know, just distinguish between you know, production workers and people [few words unclear].

M: This one as I say was Danny Shea.

R: That's R.C. Sprague's father. Frank Sprague who was, invented the [unclear].

M: Yeah. Dan Shea.

R: This is day care center that they had here.

M: Huh, they were way ahead of their time.

R: Yeah, in forty-two I guess.

M: Danny Shea. [Ruffling through papers]

R: There it is! [M: Yeah] [Pause]

M: I don't (--) [R: You remember (--)] I don't remember any of them.

R: You probably talked to some of them at one point.

M: Yeah, we used to go up and down. What the hell was this one?

R: That's, that's the old Arnold Print Works. That's about an 1890 photograph. I don't know what those machines are, do you?

M: They must be printing machines. [R: Yeah] [Unclear] buckets of color. [R: Uh huh] And you can't hardly see the rollers.

R: I think these are wonderful photographs to see, I mean if you see the belt, look at the belting here.

M: Well when you look at that light [R: yeah] you can see that's one of those old [Wellsback?] mantles. [R: Yeah] You head that name before?

R: That's a gas light?

M: It looks like it to me. [R: Uh huh] You know, these are those mantles that when a gas went up there it glowed. They gave a nice light.

R: That's an inspector or some sort. Those guys are mixing bleach I think. [Comment unclear]

M: Um, I don't know what the hell they're doing there. They're taking a sample, or something. What was this? Almost looks like an engraving or pantograph.

R: Pant, I think that's what it is. That's a pantograph.

M: Sixteen colors and half a revolution. In other words what they're saying is that see, you got one, two, three, four, five, six, seven, eight, all these are the print rollers. [R: Uh huh] The cloth comes down like this and up through here. And it used to run I don't know how many yards a second. [R: Uh huh] And you'd see this would be plain cloth and it would come out of here printed in sixteen colors.

R: This is interesting to me actually. It's not well photographed, but look at this. Look at the crap on the floor here.

M: Yeah, well as I say, that's a sloppy job.

R: Somebody said that was the printing shop.

M: And some of them are (--)

R: Are sloppier than others.

M: They had to wear boots and protective gloves. What the hell is this one?

R: That's the [unclear]. It look likes you know, these were [unclear].

M: This looks almost like I don't know. [Phone rings] They used to design buildings that way. You see a, the one on, a plant on Union Street as you come in is like that. [R: Uh huh] And they used to have windows on this so that they had the north light coming in. I don't know what this is.

R: That's Ray Bass, Sr. He's a machinist. And this (--)

M: Yeah, I know that guy. I can't think of his name. [R: unclear] He was [unclear] with Arnold Print Works.

R: Edward Youngblood

M: Eddie Youngblood, Younglove. [R: Younglove] Younglove.

R: And Allen Taylor, a machine shop apprentice. That's the first building, Building #1. [M: Yeah] That is 1946, that's the Sprague symphony orchestra. A lot of people don't remember that.

M: This was the Army/Navy E [R: Right] Ceremony. That's giving blood. What the hell is this?

R: That was right before it closed, the affair they had. [M: Yeah] [Unclear]

M: That's the capacitor.

R: That's the cafeteria at Marshall Street the first day it opened. [M: Yeah] [Comment unclear] Right. That was the radio show. [Both speak at once: Those are pictures of the strike] in 1970, yeah.

M: Yeah, I can remember forcing my way through that and getting booed.

R: Well this is interesting, because that's, that's Walter Wood who is now just negotiating the Brown Street for management. [M: Yeah] And he was the head of the union then.

M: And this (--) Yeah, here's one of the union uh, one of the circuits. I know the faces, I can't tell you the names of a lot of them. This was uh, R.C. Sprague's brother. What the hell is his name?

R: Julian?

M: Julian. And John Artman.

R: Could you write that down?

M: Two of them anyway. [R: yeah] John Artman is second from the left. [Long pause] Julian.

R: Here are more flood pictures here. '27 or '36 flood. That's back at Arnold Print Works again.

M: Capacitor line. Um.

R: That's Marion Manion.

M: Who are these beauties?

R: That's uh, what's her name? Uh, [unclear] Bond. Actually [few words unclear].

M: That looked like a dye house. [R: Uh huh] See these two rolls? [R: Umhm] And the vat. And the stuff would pass down like that and then rewind here. [Unclear sentence]

R: These are pictures that were taken. [M: Aerial?] Yeah. These are pictures that were taken for MoCA.

M: Yeah. You know I used to get lost in all of these damn things. [R: Chuckles]

R: I did. I've been there at least three or four times.

M: We used to come across one like this and we'd end up in a silk department where my wife worked. The rest of them are all uh (--)

R: Yeah, they're basically repeats and stuff.

M: This is probably in the bleach house. None of these are captioned huh?

R: I got, I have the captions somewhere that have to be put on them, for almost all of those.

M: This had to be the bleach house. See these uh, big kettles that they boiled the stuff in. Uh, calendar. I think that's a calendar where they kind of, it's just like an ironing operation on cloth.

R: Like they did on T-shirts [unclear] put on.

M: Back to the Sprague. [Comment unclear]

R: Workers at Sprague Electric under 1979. This is tearing down the big chimney that they threw everything down in. That's the bell tower.

M: Yeah, I was trying to think of the name who uh, (--) Now this is of Brown Street.

R: That's a Brown Street capacitor? [M: Capacitor] It's water cooled. You can see that.

M: Yeah you can. There's Mr. Sprague. [R: Uh huh] Bill [last name unclear], electrician.

R: Can you write that name?

M: Huh [laughs]

R: On the back? Write his name on the back. Is it on there? Oh it is on there, okay.

M: Yup, all right.

R: I don't even know where we got them. That's a nice picture.

M: Sprague's entry in the Fall Foliage Parade I guess.

R: Uh huh. That's a good picture. I wonder where that was taken. I think that's a neat picture.

M: This one here?

R: Yeah. It was taken before the flood control [unclear].

M: Um.

R: Do you remember when the flood control went in? When was that?

M: I can't, I can't pinpoint the date for you. Wow, look at that.

R: That's Brown Street. Look at that. Boy that's a hell of a place to work. It's gruesome.
[Laughing]

M: Was this at Brown Street?

R: Yeah, that's at Brown Street.

M: But they had an operation like this up at Beaver Street too. You know, but (--)

R: Yeah, umhm.

M: Well I better get going.

R: I'll see you downstairs.

TAPE I ENDS

TAPE II SIDE I BEGINS

R: I had a bunch of questions somewhere. You know I actually picked them out and looked at them. And we were very far along actually. Um, only have a little bit to go. Uh, one of the things that came up that I wanted to know about was (--) I don't know, there are some things I can't remember if I asked you or not, and I didn't play the whole thing back and I hadn't transcribed it. Uh, in terms of civic activity, I know that we talked about that you were uh, you were married in Saint Francis' Church. And your wife had been catholic. I believed that you affiliated with the Episcopal church. Is that true or not?

M: Armenian uh, Orthodox Church.

R: Uh huh. You personally were affiliated with the Armenian Orthodox Church. [M: Yeah] And did you, were you active in any church after you were married?

M: Not, they don't have [R: Uh huh] it here. I guess the nearest one would be over on Albany or Troy.

R: Right, umhm, umhm. Uh, what about um, other um, besides religious activities, what about other civic activities? Were there any, was there ever any kind of um, oh, clubs, organizations, associations, civic groups, political groups, anything like that that you ever belong to?

M: I guess I wasn't much of a joiner [R: Umhm] in things like that. So I didn't (--)

R: Did you belong to any professional organizations?

M: I belonged to the American Chemical Society. [R: Uh huh] And we used to uh, I guess back then um, we had contact with Williams College. The was this Doctor [Raynard Meirs?] with us.

R: Umhm. So there was a local chapter?

M: Yeah. And they used to have um, it was Williams College, Sprague Electric, engineering groups, and General Electric in Pittsfield. And I think that very rarely they would have a society meeting at the college, but quite a bit more frequently they'd be, have them down at Pittsfield

General Electric. [R: Umhm] And uh, we would [unclear] (--)

R: Somebody would read a paper and that sort of thing?

M: Yeah, [R: uh huh] yeah. And we used to travel down there.

R: Umhm. How frequently would that be?

M: I'd guess probably not more than two or three times a year.

R: Uh huh, uh huh. [M: Yeah] Uh, we did talk about your relations on the job, which as far as you were concerned either with uh, as I recall, either with um superiors, or subordinates, uh, you felt this was congenial relationships [M: yes] that you had uh, on the job. Uh, we talked about you basically being part of the staff as opposed to a line organization and outside sort of the chain of command of production and that sort of thing. Was that the case?

M: Yeah. R, mostly R&D.

R: Umhm. You were involved with R&D. Did you, after uh, the development of R&D did you move to the new R&D building when that building was constructed?

M: No, because I think just about that time that [phone rings] (--). See that was more or less the, you might call it, pure research.

R: Uh huh. Theoretical as opposed to applied?

M: Yeah, and what we were tied in, the group that I ended up with were tied in more with the development of existing products. And improvement of the existing products. And the labs that we had I guess uh, uh, there was not only my own, but some others of equivalent you know, equivalent nature that were attached to different product lines. And they stayed in the factory buildings where all this new stuff was set up over in [R: across the street] (--). In other words they had semi-conductor research, and ceramic research, and developing whole new products, where we were, we were oriented towards improving engineering processes and improving the products that we were making. You know, cost cutting and all of that. So we worked hand in hand with production, although we didn't always work, always report to a production manager. [R: Uh huh] In other words it started off with engineering, R&D being all under one. I guess it was a Doctor Preston Robinson, I don't know if you heard that name before. And then um, over a period of time, as they began separating out the theoretical (--). [R: umhm] and then eventually I think that my group ended up under uh, William MacLean, who was vice-president in charge of several product lines and we reported to him rather than to a, you know, research director, or something like that.

R: Umhm, umhm. Were you involved in any way in the uh, I don't know, with different corporations give it different names, production engineering, with the questions of productivity and that sort of thing, or if that was outside of your (--)

M: Uh, no. We, we um, in other words if they came to us with a problem of hey this product that we have doesn't meet what this new customer wants, uh, how can we get it to pass his requirements. See we would work in that category. [R: I See] Or somebody might have an idea, gee, I can shorten this process if I'm able to use this material instead of that one, and we'd test out the application. And so that we were supposedly the right hand of production, in other words, trying to help them overall the engineering problems.

R: Umhm, umhm. On our abortive tour of the plant it was pointed out to me by uh, I think it was Margaret I guess who had worked in Arnold Print Works, and other people who had worked in Sprague. And I was comparing notes between the two of them, and one of the things that came to my attention was that the lab building for Arnold Print Works was not used as a lab by Sprague. That it was, it became their shipping and receiving.

M: Yeah. Yeah, it was in that building. [R: uh, offices] [Comment unclear]

R: Right. And I found this a little curious and I was wondering if you might have any either knowledge, or insights about it. Um, obviously it, first of all it seemed like um, Sprague was using a lot more space for labs. But it seemed a little curious to me if a place was already equipped for laboratory work, which is fairly capital intensive, why switch it around. Why not, why not then make it part of your lab too.

M: Well I think, you'd find that it was uh (--) Other than uh, [R: sinks] just the sinks and a bench and tables, you wouldn't find anything, or hardly anything in a textile [R: that was transferable] category that was transferable. And in many cases you found that uh, the capacitor lines that Sprague was making at that time, you needed [unclear] equipment. You needed all kinds of electronic test equipment. You needed uh, um, electrolyte set-ups for etching aluminum foil. For example aluminum foil was very heavily a part of what they call the electrolytic capacitor line. [R: Umhm] So that there just wasn't anything you could really transfer, [R: right] other than as I say, benches, and tables, and a few test tubes. And I guess also that one of the first laboratory areas that I worked in when as I say, we transferred from Brown Street to Marshall Street, we brought the gas mask lab up. That was one of the first [unclear].

R: Right. That's where you worked first, right?

M: Right. And then after maybe three, three years doing that uh, I came to a parting of the ways with the people who were running that operation and I decided I wanted to move on. And I, I got offered a job in what was then their um, organic research lab.

R: This is interesting to me. Why it's interesting is that you're um, Sprague Corporation is big enough so that you could have a disagreement and still function within the organization. Find another niche.

M: Well you know, Sprague organizations, that was a government contract.

R: Oh I see. So it was with the government people that you were having differences with. [M: Yeah, and uh] I see.

M: And I, I (--)

R: These are officers who were coming into (--)

M: Yeah, there was uh, (--) I had a little bit of friction between myself and a few of the second lieutenants [R: Uh huh] who didn't I felt, give me the respect that I expected from them. And not just uh, you know, treat me like some, or one of their soldiers that they're shoving around. [R: Right, right. Uh huh] And I said the hell with this. I can't take this anymore. So I asked my boss if he could find me another job. Um, fortunately and to my great delight later on it ended up in an organic research lab in a whole new field. Although I had taken several organic chemistry courses, as far as textiles go, I had that much of a background. And dye preparations and synthesis of dye stuffs, things like that which were basically you know, the reactions were the same there as other branches of organic chemistry. So um, I think it was uh, I'm trying to remember the, was a Doctor Brooks in charge. And one of the first things that we worked on was the preparation of vinal carbisol, which was an insulator for one of their very important capacitor, the VT. I think we mentioned that VT, proximity fuse capacitor. [R: Umhm] The capacitor went into that, that Sprague made. And um, I think after Doctor Brooks stayed on us for another two or three years, and he saw greener pastures after the war was over. And he went to someplace down in Connecticut I guess, with a, I think with a firm that if I remember right, some firm names Vanderbilt. They had something to do with ingredients for rubber compounding, [R: Umhm] which also involved a lot of organic materials, and vulcanizing materials. And he was, and then the next guy that took over that laboratory was a Dr. [Krume, Krume Bate]. And uh, he stayed maybe three or four years. And finally ended up with [unclear] brain locks, but I can't (--) Sidney Ross, Doctor Sidney Ross. Uh, was a cracker jack organic chemist, graduated, graduated from Harvard. And uh, he really knows his stuff. Very, very good theoretical and [unclear] you know, synthetic, organic preparations type of guy. [R: Umhm] And I, you know I was very fortunate. I had a chance to learn a lot from these fellows, although my own bent was more in the practical end of things. [R: Umhm] But that stuff never did hurt me. I, as I say, I've learned a lot. I was given the opportunity to work on several papers which were published in American Chemical Society with say, Dr. Sidney Ross and Mark Markarian and others. So it sort of, that was (--)

R: Was there a, was there a pecking order in, in your, with whom you worked with in terms of academic credentials?

M: Not, not so that you'd notice it too much. I think uh, there weren't all that many people involved actually. It was, for a good many years it was Dr. Ross, myself, Matt [Norzusky?] who was a great lab technician and an extremely good glass blower.

R: That's quite a skill.

M: Yeah. So uh, [R: your courses in chemistry did it right] there were three of us, three of us doing all of this early stuff. And I guess after a period of time they did hire another organic chemist and they got working on dielectric materials. Insulating materials. But uh, nobody pulled a rank, hey, I've got a Doctor's degree and Mark you're only a poor Bachelor. [R: Umhm]

R: Um, you talk about, we talked pretty much about what you liked about the job, and what you found hard about it, or easy about it and those kinds of issues. Um, you would have been (--) We talked something about labor relations in Arnold Print Works, that you would have lived as an employee of Sprague, lived through two strikes. Do you remember either, or both of them, and what was your experience in those strikes?

M: Strikes at Sprague. [R: Yeah] I think, I remember one. They didn't uh, there wasn't much (--)

R: One was right after the war, almost immediately after the war.

M: No, I don't remember that we got involved in that one at all. It seemed like there was one quite a bit later on [R: in seventy] where they really got very, I don't know what's the right word to use here. But they were really pushing and shoving, [R: Uh huh] and blocking entry. And uh, you know, what the hell, we were in engineering. We weren't on strike. And they still wouldn't let us through without hassle. So (--)

R: Was this disturbing to you?

M: It was, yes.

R: Did this affect any social relationship out of it, or anything?

M: No, no. No, it's that it seems like after the thing was over and settled uh, you know, we, it wasn't like uh, if you were in the same department with one of these guys and you said, hey, I'm going to keep on going to work. Now you've got a bone of contention. But we were a whole other group. And they're just doing it to hassle more than anything else. After it was over everybody was back in good terms again.

R: Um, talked some about when you first came here and what your outside activities and work, activities outside of work would be like when you were young, a single man. Um, how about after you got married, since you've been married. What, what are your major past times outside of work? Or what were your main past times?

M: Well mostly uh, bringing up my two children.

R: Do you spend a lot of time with your kids?

M: Yeah. And we weren't too well to do in those days. We had to, we'd walk to uh, nearby parks. Go picnicking. Go swimming and picnicking whenever we got the chance in the summertime. And later on when we took a chance a sunk some money into buying a house. And then I got busy with the house. I (--)

R: You were fixing up and that sort of thing?

M: Yeah, the one I bought was half finished. And the people that had started it couldn't swing it. And so I was able to take it over.

R: Uh huh.

M: And uh, the city boy who had never held a hammer and saw in his hands [R: right] and I went around the plant and asked the carpenters questions. How do you do this? How do you do that? When I was doing electrical work I'd talk to the electricians. [Comment unclear].

R: Every skill at Sprague too [comment unclear].

M: You know, you talk to people and you read books on it and then after awhile you know what you're doing. [R: Umhm] And so we made out pretty well. And I'd do you know, a lot of, getting a lawn established and doing some landscaping, [R: Umhm] and all that stuff. So that kept me busy and it still does.

R: Uh huh. You enjoy that. You enjoy working around the house.

M: Yeah. I [unclear] yeah, garden.

R: Uh huh. What, what about (--) Talked about sort of your immediate relationships at work. What about top management uh, both at Arnold Print Works and at Sprague. How much (--) First, how much contact did you have with them and what were your feelings about them?

M: Well [unclear] (--) The Arnold Prints Work, the top management that I was involved with was say the vice president in charge of the I guess production and engineering, which included the laboratory was a Doctor DeGuntz. I don't know if that name has ever come up. But uh, under him was the head chemist was Ed [Tarnuzer?]. And he had this lab that we've talked about previously. And he had you know, like a half a dozen chemist and technicians working under him. So in those days (--) Oh, and then there was uh, several of the uh, um, department superintendents. [R: Umhm] And uh, we got so that we were all pretty friendly. And it was not uncommon that one or two cars say in the wintertime, we'd load up and they'd be four in each car. We'd have Dr. DeGuntz and Ed Tranuzer, myself, Peggy [Harkridge's] husband there, John. And uh, I guess the what they call the silk department, the head of that was Charles [Posy?]. And his brother was uh, superintendent, or second in charge of the Bleach House in the Arnold Print Works. And we'd all get together and go out someplace skiing in the wintertime. [R: Umhm] And uh, another past time that I personally had was uh, two Posy brothers, Charlie and John and myself, we used to get together frequently and go fishing down around Cold River and the Deerfield. Um, what the heck else did we do. Oh, and many times in the summertime we would walk all the way down to just about where the McCann school is [R: Umhm] from North Adams. That was probably a two and a half mile hike. [R: Right] Maybe three miles, I don't know. It was nothing in those days to walk that far. Play two or three sets of tennis sometime. [R: Uh huh] And there was a road house there. After we were through playing tennis we'd go and have a couple of beers and then walk back. So uh, that and the dancing, and uh (--) I think we talked about the dances they had at the North Adams Armory.

R: What about with the Spragues? Did you, did you have, I mean what kind of contact did you have with the Spragues? And what was your feeling about them?

M: I had very little contact. [R: Uh huh] In the(--)

R: Did they often come to your lab? Did R.C. come here sometimes?

M: Yeah. Mr. Robert Sprague being a gentleman that started the company with his brother, I guess his brother Julian Sprague. [R: Umhm] He had one of those fantastic memories. And he remembered faces and names and he made it the habit to walk through the plant quite frequently and get talking to people, and getting to know them. And even after years had gone by you know, he'd, he'd be the kind that would say, "well how are you Mark?" He'd remember your name. And um, he was always very friendly in that respect. And the other way we got, we had contact with them was uh, they had the Sprague Management Club. [R: Umhm] And I think once a month they'd put on a dinner and have a speaker, or something like that, and a dinner. And maybe once a year they'd have a big shindig down at the Pittsfield Country Club where they'd invite the wives. [R: Umhm, umhm] So in that way we got to uh, you know, we had contact with them quite frequently. But as far as hey uh, Mr. Sprague come to my house or I'd go to his, it never, never with me, probably with others.

R: Um, how over the years, if at all (--)

M: What was that?

R: Uh, over the years uh, [M: yeah] if at all, how did your work change with regards to uh, especially with regards to working conditions, health, or safety problems, or things like that, did it change at all over the years, your, your work?

M: Well I was the kind of a guy that I, I took on a lot of different jobs. Uh, it was, I was maybe been in the organic chemistry lab for seven or eight years. And uh, maybe even longer than that. But uh, then uh, Dr. Robinson asked if I would be willing to take charge of one of the labs that they had going, where the fellow that was in charge at that time was leaving, and they were looking for a replacement. And this was more directly connected with production problems [R: umhm] and production development type of work rather than the strict organic chemistry that we were in. Trying to develop new dyelectrics and things of that nature. New insulators. [R: Umhm] And it's one of these things that when they come up you start thinking well, is this an improvement for me? Does it give me greater opportunity? Then I say oh, I can't say no, or keep saying no all the time. I had some feelers previous that and I, gee, I love this work I'm doing. So this time I thought I'm going to take a chance and move. [R: Uh huh] So I got into that and uh (--)

R: So things changed for you sometimes because you're, you just chose to change jobs?

M: Yeah. And in the field of work uh, and I've always had a love for the innovative end of things. So it gave me an opportunity to try to use my own vent in that direction. And so I went with it. And that ended up my being in charge of maybe a half a dozen engineering people and a

couple of technicians. And so from then on it seemed like I, I was heading up laboratories, [R: umhm] or laboratory groups. And finally uh, I ended up as a manager of passive component development, which, [R: uh huh] which uh, I think, I can't give you a (--)

R: I know what passive [unclear].

M: Accurate you know, I ended up being in charge of maybe three, or four separate groupings of engineers. You'd have maybe three engineers working on a [unclear] capacitors, and then another three engineers working on solid tantalum [unclear]. [R: Uh huh] And then another one paper and film. [R: Uh huh] And so I was in charge of a fairly large group of maybe twenty-four, twenty-five people, plus a half a dozen technicians. And that's (--)

R: Did you enjoy that, enjoy that kind of change?

M: Yeah. I've always enjoyed you know, trying to get into new, new areas. [R: Uh huh] I'm trying out new things.

R: Um, did these kind of changes, did they result in promotions, or pay increases, or improved benefits? Yeah. Uh, was there any point, particular point, or points in which there were promotions of pay increases, or improved benefits significant which were independent of those kinds of changes. What I'm saying is for some reasons there was, there was an across the board increases or improvement in benefits at any point. Do you remember anything like that?

M: Well I guess you know, you were evaluated pretty much yearly. And if you were producing, you expected and in most cases you got a pretty good increase. And if times were bad, hey, everybody (--) [R: Right] You not only got no increase, you might have to take a temporary pay cut, [R: Uh huh] which happened a few times. And you know, they were if I can remember right, after things got better again they [R: made it up] made it up over a period of time.

R: Um, talked about how your place in the work place shifted and you had to, got into a more and more managerial, or supervisor/managerial position. What about the structure and organization of the work place itself that you worked in, or part of it that you were aware of. [Phone rings] Did that change at all over the period of time that you worked there? Either the way it was organized, or in terms of work processes and that sort of things?

M: I don't think I can answer that. I don't really (--) You know, nothing drastic. That's why I say I don't know.

R: Were, were there uh, were there any sort of memorable, or dramatic new kinds of techniques or machinery that came in that were applied to your profession that were especially memorable?

M: [Long pause] No. I think rather than have, well I'm trying to think. I can't think of any one instance where it was that radical. You know we, we did come in with new, new products quite frequently.

R: I am not so much talking about the production of new products, but as the sort of machinery

that you would use on a day to day basis to, to work with. Not the things that you produce necessarily, but the kind of techniques and machinery that you worked with. One of the things that, I go over there now and I walked through the halls and there's all kinds of electronic machinery from different eras, you know? [M: Yeah] Well that's World War II, and that was in the fifties and that was in the seventies. And so I'm wondering in your profession if there were any changes?

M: Well yeah. Well I think uh, in that category that the things that say if I look at it over, broad brush it over a period of time I can see where they had row after row of girls doing it by hand. [R: Yeah] Okay. And then uh, they'd even have to lay the capacitor film and the uh aluminum foil, or what have you in there and then wind it by hand. [R: Umhm] And over a period of time they had rolls mounted on there where the things were fed to the girl, and she still had to do some of the work and start [R: right] it up, push the right buttons. And then over a longer period of time it got so that the machine did almost everything automatically. [R: Umhm] And it got so that well, one machine would run so well that the girl had nothing to do. Uh, except set it up in the morning, make sure the [R: right] dimensions were correct. And then push the button and let it go. And then they'd have a girl tending two, or three machines. [R: Right] And then uh, some of the other things that came in as um, initially say they'd have a tray full of capacitors and the girls would have to take them one by one and put them in an electronic test equipment, [R: Right] and read the capacity and the resistance, or what have you. And uh, this involved very laborious, you know, verify that the capacitor [unclear-both speaking at once] was good. And then it met the tolerances that that group was suppose to meet. And uh, then they, it got so that they had even automated, or semi-automated the test equipment [R: right] so that these things would be dumped into a hopper and it would straightened them out, straightened the leads and put them through test equipment, where these tests were all done.

R: That's production though. I'm thinking more about your own experience. That is were there any kind of (--) And I mean you, you described it very well the kind of changes that took place in production. Is there anything remotely analogous that took place in the lab where you worked? Changes in machinery, techniques, that sort of things.

M: Not, not in lab, not in lab technology if that's what you're asking. [R: Yeah] However we still (--)

R: I thought perhaps there might be new machinery for example that would do things with, with uh, you know, spectrometers come in and things like that.

M: Yeah, I mean there's always new uh, more expensive and more up to date equipment that's capable of doing more things. [R: More things, yeah] In that respect yeah. In other words if you found that even in a laboratory the technicians were spending hours just taking measurements and writing them down, and you got a new capacitor test equipment that uh, you just plug things in it and it punched it out all on a [R: Umhm], you know, piece of paper and you got the results. And it's all tabulated. So from that point of view sure, there's a lot of that type of equipment.

R: Was there any particular piece of lab equipment that you can remember that was especially

memorable that way that was a really big change?

M: No, I, I can't think of anything. Not being [few words unclear].

R: One of the things that I have to do for example is I have to write a lot. And when I (--) It was only a couple of years ago when I finally figured out how to use a word processor and started using it. I, so that you know, within a month I said you know, how did I live without this? [Laughs]

M: Yeah. Yeah, yeah right. Yeah. No I'm sure that as I say I wasn't that deeply involved in the electronic testing end of things. [R: I see] And uh (--)

R: Well how about the chemical testing? There must be changes in that respect too, aren't there?

M: No. If we had, if we had to do (--) The way that things were set up, say that in my lab we got a raw material and we had to characterize it, we'd take it over to the new research center where they had an analytical lab. [R: Uh huh] Okay? Now in that analytical lab they had completely up-to-date equipment. Like you know, spectrometers and all kinds of fancy analytical gadgets, where you could maybe even give them a drop of liquid and they'd come back and tell you all the ingredients. [R: Right] Where we, we never did any of that stuff.

R: Okay. Um, when did you leave Sprague?

M: In 1979.

R: Umhm. And that was, you retired?

M: Yeah, I was 64. I went out a year early. [R: Uh huh] I was getting (--)

R: You were ready?

M: I was ready mentally and [chuckles].

R: Um, how do you feel about Sprague pulling out of Marshall Street?

M: Uh, I always felt that if they could have made the effort to keep some things going there. That was my own view. But uh, no matter it is an old building, but it was a sound, you know, many of the buildings were sound. They didn't have to use it all. Hell when they first started it was a million square feet of manufacturing space, and they didn't fill it up when they first came there. [R: Umhm] And it's nice. Well I've always felt that if they were going to put up a new factory I was kind of happy that they didn't put one up for this operation that they got going down [R: (unclear) highway] on [unclear] highway. And uh, I guess that I have a lot of loyalty and love for the area in the town of North Adams. And I've spent many years here. I'd like to see the company continue doing business here. [R: Yeah] You know? And from that point of view I was you know, sorry I've seen them pull out. But that seemed to be the big trend of the times. And I don't know, I guess it happened to a lot of other companies where uh, I guess it got

into they heads that North Adams it out of the way, is difficult for customers to get to and all of this. Now we belong in a real up and coming area, and so they started moving stuff up here. [R: Umhm] And the way the organization ended up they have a vice-president manufacturing this type of capacitor, another vice-president in charge of production of another type. And like they have, solid tantalums was mainly being made at Sanford, Maine plant. And if they needed more manufacturing, or production capability, they wouldn't think of doing it in North Adams. See, the guy that was running that outfit was trying to make himself look good. [R: Right] He didn't want it going to an old decrepit old mill like uh, [R: uh huh] the Arnold Print Work. And so they'd go out and build places in uh, what, they put up an operation down in Texas was it?

R: Right, and all over the world really.

M: And so that's what happened. They stopped uh, whenever they had problems with increased manufacturing space, they didn't do it in North Adams, they did it someplace else. [R: Umhm, umhm] And that was the trend at the end while I was there. [R: Umhm] It wasn't always successful. And you know, you can say that you and I working at Sprague had made those mistakes you'd had got bounced right on your ear so fast that you wouldn't know what hit you. But some of these things were made by the top management people. [R: Umhm] And subsequently turned out to be disasters and they still stayed on.

R: Right, right.

M: So you know, I don't know. You can point the finger at some of the good things they've done. And in a way a lot of these decisions if you'd look back on them weren't, weren't all that smart.

R: Um, what about MoCA? What are your feelings about MoCA? After all if this is successful [few words unclear].

M: I can't really uh (--) You know I wish him luck, [R: uh huh] but I have a gut feeling that it's, it's all a pipe dream. [R: Uh huh]

R: Um, (--)

M: It's you know, it's very difficult for me to un (--) to picture how they're going to attract all that many people here. [R: Uh huh] That uh, and when they get them here where are they going to put them? And uh, how are they going to feed them, you know? Things like that.

R: Well they suggest change is larger than just putting a bunch of paintings in that space there.

M: Yeah. I don't know. As I say, I wish them luck. I support their (--)

TAPE II, SIDE I ENDS
TAPE II, SIDE II BEGINS

M: I'd rather see (--) You know, what bothers me is, on that whole business is it going to end up like a lot of big cities have gone into poor neighborhoods, and the Arnold Print Works is in one of the poor neighborhoods as far as housing goes. [R: Umhm] Okay. A lot of cities have gone through this exercise and either town down or built (--)

R: Where are the poor people going to live?

M: Yeah, and where the hell do the poor people go? [R: Yeah] And to me there is so much space in that factory that [R: right] it almost seems that without you know, too much fussing around that they could make some uh, a whole slew of apartments [R: Right] in some of these buildings.

R: Right, umhm.

M: And it would be a shame that uh, if they could do something like that that they couldn't make them available to some of the lower income people.

R: Well they do that in some places and then they turn them in to condos for yuppies, you know? So.

M: Yeah. And that's where it end up. And it's a pretty hairy situation, because I've also see where the people have put, communities and states have put a lot of money into these high rise apartment buildings, and they end up by being, in ten years they're slums. [R: Right] They're just high rise slums with people afraid of each other, and beating up on each other, and you know, all(--) [Chuckles]

R: Right, exactly.

M: Um, the name of my project, this is Shifting Gears. The subtitle of the project, is the Changing Meaning of Work in Massachusetts 1920 - 1980. So what the subtitle is all about is that my mandate is to look at North Adams and say, "well how has the meaning of work changed in North Adams since 1920?" And uh, there are scholars on the Shifting Gears Project in six different sites all over the state. They're in Lawrence, in Fall River, in Holyoke and Blackstone Valley, in Gardner and here. Once a month we all get together and talk about what you're learning, what's the changing meaning of work? And one of the things that I came up with, I said you know, well what does it mean the meaning of work is changing? What does that, I don't know what it means. And um, nobody has been very much help, because we all, none of us are quite sure of, of that. But that's sort of the notion that we, we're using to organize our work. To look at this question, or problem in the changing meaning of work. This is all sort of a very long and vague introduction to a question I'm about to ask you. That is what your opinion, how has the meaning of work changed since the 1920's or 1930's, in your life, in your experience particularly, how has that meaning of work changed? Uh, and uh, if you're going to ask me what I mean by that, [M: yeah] I'll just throw it back to you and say, well what do you think it means, you know? I mean sort of chew on that. I would like you to sort of think of how work has changed, to the nature of work.

M: I guess, yeah, my own experience, the work ethic that I was brought up with is you wanted to do an honest days work, and you wanted to take pride in what you did. [R: Umhm] And uh, also you hopefully wanted to participate in the um, I had the word at the tip of my tongue. You wanted to participate in the good that comes from that work. The you know, if there are profits, you'd like to at least feel that you're taking part in that work. You're putting your best effort into it, you should benefit by it. [R: Umhm] And uh, I guess my philosophy has always been that it isn't always just to chase the highest amount of money that's available, but to be happy with the type of work you're doing and be satisfy with the work you're doing. And it so happens that let's say I have to do this particular type of work here, and I'm only getting twenty-five thousand dollars a year, but if I wanted to make fifty thousand I'd have to go live in a fast moving, fast pace environment, say like New York City, where you're under greater stress, I'd say the hell with it. I'm happy here, I'm going to stay here. So from that point of view I guess the meaning of the work has not changed for me, I've always felt that way. And uh, any times that I have been unhappy with the work had been times where for one reason or another I've gotten into a situation where I don't feel that I'm using my own developabilities, or that my capabilities in those areas is not recognized. [R: Umhm] So you know, these are the kinds of constraints a person feels a lot more at ease and happier with his job if he, if he understands what he's doing and if he feels that his superiors understand what he's doing and respect it. [R: Umhm] I don't know if that's an answer.

R: That's, that's pretty good actually. That's one of the more interesting answers I've received to that question. That one, that actually could provoke a little bit of thinking. One thing it sounds like you're suggesting, or, and I just want to push this a little bit, is that people aren't, it doesn't feel to you like people are as loyal to maybe companies or jobs as they used to be. That that is, that if, that they're willing to skip and go someplace else if it looks like that's an advantage to them.

M: Well that's a two way street.

R: Yeah, and then the companies aren't loyal to them either.

M: And the companies are not as loyal to the(--) So it's kind of, kind of airy.

R: Uh huh. In your uh, the other thing that you talked about that sort of work out of working hard, of being proud of doing a good job, and expecting recognition for that, um, not in terms of yourself, but in terms of, and I'm not asking you to name names here or anything like that, bit in terms of people that you interacted with over your career, did you see that change as a state of mind? Where when you were a young worker people seemed to be perhaps maybe more have a work ethic, and that's changed in some way?

M: I guess the overall trend is to uh, you know, probably be more aggressive, more pushy. [R: Uh huh] Climb the ladder. I guess I wasn't personally inclined in that direction. I was very happy to be able to tackle a job that needed to be done. And try to use my god-given talents and brain to solve the problem. And you know, solving problems gives one a great satisfaction. If you could make money while doing that and enjoying your work [phone rings], there's no better

feeling in the world. However you know, you find that as you look around you want to say gee, this guy is just rubbing elbows with the right people and he's getting ahead faster than I am. But uh, hey, this goes on. It always had gone on. And it probably always go on. I think you have to live by your own sort of uh, your goal in life, your feeling in life and your own rules to get there.

R: You think, in general do you think people work harder than they use to, less harder than they use to, or about the same?

M: I'd say less.

R: Well I very much appreciate the opportunity to talk to you. It was a real special experience for me, because you're the first person who worked at Marshall Street, and worked both for Arnold Print Works and for Sprague's. And could lend me some very special insights into that, because more and more, as you know, I'm looking at that building rather than (--) It's hard to convince former employees of what exactly I'm looking at. It was very interesting when we were waiting outside and the gate was locked, and you wanted to go on the tour because there was some Arnold Print Work employees there, some Sprague employees, and they were sort of, but they had all worked in that building. [M: Yeah] And it was, they didn't, it was sort of they didn't have a lot to connect with each other about, you know. Especially the you know, the Sprague employees were saying, "oh well, why do you want to look at this before 1941? Before 1942 we were all at Brown Street. You know, you should look at Brown Street."

M: Yeah, Brown and Beaver, Beaver Street before that.

R: [Laughs] No, I want to look. And it was hard to, it's hard to convince people that what I'm looking at is you know, is not the corporation, but the buildings, you know? [M: Yeah] And I think because of your career experience you're in a position to appreciate that more than a lot of people who work there.

M: You and I have trouble trying to put an operation into specific buildings here. You know, like [R: right], like I told you in I guess it was building 2, they had the engraving and chrome plating and all that sort of stuff. And the gray goods were up on the(--)

R: Remembering the changes today.

M: Yeah. And, and uh, you know, I know in my own mind just about where the bleach house was, and I know where the waterworks was. I got into that with you [R: umhm] on one of my first jobs. And uh, it used to go half the length of the Marshall Street building, and then you'd go over some overpass and you'd be in the silk department, you know, and that kind of stuff. [R: Right] I think way down towards, you know the building almost reaches Brown Street. And the uh, you know where the two branches come together down there? [R: Umhm. Yeah] That, from that point there quite a ways back, you know, on the bottom floor my memory is that there was a real solid concrete type of a flooring, and they had quite heavy machinery in there. [R: Yeah] It was a calendar room. And uh, um, calendar room and [tender?] frames. This is where the cloth, one of the finishing operations I guess was where the cloth would come in and it would go over these sets of rollers. And the rollers were not running at exactly the same speed and it

[R: use to stretch it] use to polish it like, and iron it, you know? And those were real heavy, big, massive cast iron frames. And uh, huge you know, like twenty, twenty-four inch diameter steel rolls. And they would be heated. You know, you'd have steam heat in some of them. And uh, it was a pretty heavy operation and it was down on that ground floor. The uh, where the Sprague cafeteria ended up, [R: Right] that used to be the print, printing department. And that's where they had I don't know, maybe twenty-four printing machines along there some where. [R: Umhm] And uh, the color shops where they prepared all the dyes, the pastes that went into these printing machines were right in back of that. The lab was, I guess you know where the lab was, the old Print Works Lab. The organic lab, when Sprague finally set it up and I got working with Doctor uh, Doctor Ross (--) As you go into Building 2 and you start walking down the long hall, on the right side of that there was a group under Doctor Burnham, whose main activity was development of new types of aluminum foil and edging processes for aluminum foil that went into their electrolytic capacitors. [R: Umhm] Okay. And right across the hall was the organic lab with Doctor Ross, myself, Matt [Norzusky?], the glass floor technician, and over a period of time they added a couple of other chemists in there. And um, down at the end of that seems to be this kind of a jog in the (--) You go down the long hall and uh, [R: Uh huh] they are a couple of room near the end of that and you had some pictures here where I think I wrote Danny Shea. [R: Right] That was the electrical test and light test department, where say that this group that was working on the electrolytic capacitors, say they'd take capacitors out of production and put them on a light test.

R: Just break down voltages.

M: Yeah, but also you know, they'd have a specification that might say uh, this will uh, we'll guarantee this to work a thousand hours at 85% C under (--)

R: So you'd run it that long.

M: Yeah, and you'd run it that long, or longer [R: Uh huh] if this indeed meets the requirement.

R: Right, right. Um, is there anything that you would like to add to our conversation?

M: I can't think of anything. I think we covered pretty much.

R: Uh huh. Okay, well.

M: But if you do have any questions, you know, don't hesitate to call me.

R: Yeah. I'll have to listen to the tapes and transcribe them. Probably (--) I don't know if I brought this up. I had [few words unclear]. I had, I think I left them in the car. Really nice pictures of um, of Arnold Print Works and the Bleach House, and the big vats. [M: Yeah] Really, really they're old, very old, but I got them out of this book called "North Adams, or North Adams and Vicinity."

M: You know there's something that's always intrigued me. The Arnold Print Works, on of the big wigs was a Mr. Flood.

R: Yeah, and then he became treasurer of Sprague.

M: Then he became the treasurer of Sprague.

R: Yeah, he engineered Sprague coming here.

M: And then, then um, his son-in-law was Neal Welch, [R: Uh huh]] who ended up being one of the big wigs at Sprague. [R: Uh huh] Okay. And I often wondered where did all of the old records of the Arnold Print Works end up?

R: We're still trying to find that out.

M: And where did all of the old records of Sprague Electric wind up?

R: Well they're, I know where they are. I'm trying to get at them. [M: Yeah] Those that weren't thrown out, which were a lot of them, are across the street the at the, [M: in the library] in the library of the Research Center. [M: Yeah] Although they did throw a lot out. And they're in Fred Windover's control. I have yet to draft a letter to him to uh, to get at them.

M: But um, (--)

R: But a lot of them were thrown out.

M: Have you had any contact with Neal Welch, [R: no, I don't know him] or the family? I mean that family [few words unclear]. [R: I have tried to find out. There was stuff] Who I don't even know if the guy is still living or not.

R: Apparently a lot of stuff, there's this guy uh, [unclear], he's a printer. Um, he's about my age. Sort of an aging hippy. But he's, he's got like an historical interest in the APW down here. And he's trying basically to save it. He doesn't want it to be torn down. He's trying to get investors to save it. And he works with the Adams Historical Society. And apparently you know,

M: You know that that was part of the Arnold Print Works? [R: Right] Right.

R: A lot of stuff, basically when it folded up here all those records came down here, most of them. And a lot of them burned in the fire. [M: unclear] And there was, and there was piles of stuff that was just laying on the floor, which [unclear] resurrected. I mean it was just laying all over the place. Um, there was, like a week before I got here, a room full of glass plate negatives from the Arnold Print Works that were sitting over there. And they shoveled them out and threw them in the dump. [Few words unclear] you know, two days in the dump and that was it for them. Besides which they break almost instantaneously with any kind of rough treatment.

M: Yeah. Oh gee.

R: Yeah, yeah. It was a real, it was a gold mine.

M: Because that's, that's always been on my mind. When the Arnold Print Works folded up who took all of those records? I'm, I'm sure that there's uh, 95% of the records you'd throw out too, but if somebody just had a chance to sort out what was good historically.

R: Exactly. [M: Or an example of a (--)] I mean basically what they managed to save was stuff that they think is important to the corporation, not what's historically relevant. In other words if there's any trade secrets, of any security things, or anything in terms of business industry that's important, they saved it. But a lot of stuff that I'd be interested in like for labor relations, you know, and photographs, and you know, biographies and stuff like that. That's [unclear].

M: I'd even be interested in getting some of my old lab note books back if they're going to throw them out. [R: Uh huh] But who'd know, who knows what the hell, where they are, or who, you know?

R: Well they're, you know, they very, they might well be over there. One of the things that I would like to work on, it's another thing that I need to be writing and I'm just so you know, all over the place I haven't had a chance to sit down, is I have a proposal for MoCA. Basically that they take two or three rooms of these twenty-eight buildings and turn them into a heritage museum to commemorate Arnold Print Works, Sprague and the Sprague family. And have one room be a room full of textile printing machinery. Another room be a room with capacitor rolling machinery and other machinery that would have to do with the manufacturing of capacitors. And have the third room be a really serious academic archive with you know, where, because you got a lot of institutions of higher learning around here. Which I mean even [few words unclear] professors, it would be a wonderful place for social scientists and humanists, historians, you know, sociologists to be able to go to and have, and have it become like a major resource for the history of science and technology. You know, have it become a repository for the history of science and technology. And start with the sprague collection as a basic collection. So that's one, that's going to be my proposal to Tom Crane.

M: Yeah, I thought, I think I mentioned to you when we were speaking last time you were here, that I thought when Sprague was moving out and I didn't know what was going to happen, this was long before Mass MoCA, but there was an Historical Society in North Adams. And I was saying, gee, what an opportunity it would be if somebody could only talk Sprague's into giving you one of the buildings across you know, just barely beyond that, they've got that monument to the [iron boundary?] you know, [R: right] and then there's a building right behind that, say. And if you could get some of that and tie it in with this place, [R: yes] but don't only devote to uh, Arnold Print Works, but they had a lot of history in North Adams with the Wall Street Shoe Company, [R: right, umhm] and Gail Shoe Company.

R: Sampson?

M: Huh?

R: Sampson.

M: Sampson Shoe, yeah. And then they had uh, Blackenton Woolen Mills. [R: Right] And I just [few words unclear].

R: This is a major manufacturing district.

M: It was a real real uh, [R: yeah, that's the problem] and you know, it was major and also fairly diversified when you stop and think of it. You had shoe shops, and woolen mills, and cotton mills.

R: Well that's the problem with this museum, which is because, and I think it's right that it's devoted to the tunnel. But because of it's size and because it's so exclusively devoted to the tunnel. But because of it's size, and because it's so exclusively devoted to the tunnel, it doesn't have the space to commemorate North Adams as an industrial city. It's only really commemorated the tunnel, which is as it should be. But there should be some other space then for industry.

M: Yeah, I think so too. I think if you make it a you know, a tourist attraction [R: right] and get the travel groups behind it so that this now becomes a weigh station so to speak. Okay. [R: right] Say um, you're on a bus tour and you come up to Albany. [R: Right] So you tour the Albany civic center, okay. And then everybody hops back on the bus and they come to North Adams. [R: right] Okay, but, and then they're going to tour Mass MoCA maybe, or even if Mass MoCA didn't exist you got a Museum of Industrial Development, or whatever you want to call it. But now you have to think in terms of, by this time those people have gotten hungry.

R: Right. You need a restaurant, right.

M: I'll tell you, when we were, several times after I retired my wife and I went over to Europe on some of these motor tours. And God you'd have these weigh stations that would be like uh, on one of the main highways. And then after traveling, you'd start out on your tour maybe around eight-thirty in the morning. And they'd never go more than about two, two and a half hours, and then make a pit stop, you know? And then these, these usually uh, extremely well built, beautifully landscaped. And you go inside and the service was wonderful. You had cafeteria style if you wanted, or you could go sit at a table and be waited on. But the point I'm trying to make is that not only our bus stopped there, it might be three or four other that would stop there at the same time. [R: Umhm] You see these are regular tour stops, or, and therefore they were always prepared for it. If you say descended a half a dozen bus loads on North Adams now it would be a disaster.

R: You think (--) There's no place to deal with it, right.

M: You know what I'm saying? If you had a set-up like that, you bring the people in, you have them and they go away happy.

R: Speaking of that, I don't remember if we talked about the cafeteria at Marshall Street. Did you eat there?

M: Yeah, I used to have (--) I never was a big noon time eater. So I would just, maybe it would be a sandwich and a cup of coffee.

R: I saw some astonishing pictures of that. The kitchen in that place. I mean speaking of vats, I mean they must have fed hundreds of people there.

M: Yeah. Yeah they do a pretty good job in there. And the prices were reasonable if I recall.

R: Okay now. It was very, very nice talking to you.

M: Uh, you're welcome. I hope uh (--)

R: And if you have any ideas for me please be in touch.

M: No, that's (--) That's all I could (--) You know, as I say, I always wondered about where some of these old records ended up.

R: Uh huh. Well that's one of my jobs to hunt them down.

M: If uh, [unclear] lead you on to some of the Sprague stuff, fine. It wouldn't surprise me (--)

TAPE ENDS